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February 22, 2011

Mr. Ramon Mendoza
On-Scene Coordinator
US Environmental Protection Agency Region V
77 West Jackson Boulevard (SE-5J)
Chicago, IL 60604-3507

**Subject: Euclid Chemical Fire Emergency Response
Sheffield, Bureau County, Illinois
Technical Direction Document No. S05-0001-1010-010
Document Control No. 1241-2A-ALHZ
Work Order No. 20405.012.001.1241.00**

Dear Mr. Mendoza:

Under Technical Direction Document (TDD) No. S05-0001-1010-010, the United States Environmental Protection Agency (U.S. EPA) tasked the Weston Solutions, Inc. (WESTON[®]), Superfund Technical Assessment and Response Team (START) to respond to an explosion and fire at the Euclid Chemical facility in Sheffield, Bureau County, Illinois (the Site). The emergency response (ER) was conducted to determine if the explosion and fire at the Site posed immediate threats to human health, human welfare, or the environment.

This letter report discusses the Site description, Site background, ER activities, air monitoring results, and air sampling results, and presents a summary of the ER activities and findings.

SITE DESCRIPTION

The Site is located at 15191 Illinois Highway 40 (IL 40) in Sheffield, Bureau County, Illinois (**Figure 1 in Attachment A**). The Euclid Chemical facility manufactured and stored epoxy products, including coatings for residential and commercial flooring, joint fillers and sealers, and bonding agents.

The Site is located in a rural farmland area and is bordered by open farmland and the Hennepin Canal Parkway State Park to the north, Union Pacific Railroad tracks and open farmland to the west, a wooded area and farmland to the south, and a grain storage facility and farmland to the east (**Figure 2 in Attachment A**). The closest water body to the Site is the Hennepin Canal located approximately 1 mile north of the Site.

SITE BACKGROUND

At approximately 0600 on October 9, 2010, a fire erupted at the Euclid Chemical facility in Sheffield, Illinois. Firefighters responded to the incident and began fighting the fire with water.



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Firefighting operations using water ceased approximately 1 hour later because little progress was made. Firefighting operations resumed at approximately 2130 hours and stopped at 2220 hours because of the need for heavy equipment to remove building walls in order to fight the remaining fire.

Because of the fire, portions of IL 40 and U.S. Route 6/U.S. Route 34 were closed to vehicular traffic. The Illinois Environmental Protection Agency (IEPA) and Illinois Department of Transportation (IDOT) installed sand berms to direct water runoff from firefighting efforts toward a downgradient storm water drainage ditch in the southeast portion of the Site.

Several firefighters reported headaches and dizziness, were admitted to a local hospital, and were later released.

At 1050 hours, IEPA requested air monitoring support from the U.S. EPA. At 1357 hours, a potentially responsible party (PRP) reported the release to the National Response Center (NRC.) IEPA and U.S. EPA requested that Euclid Chemical representatives acquire response contractors to clean up the Site and support firefighting activities. U.S. EPA On-scene Coordinators (OSC) and WESTON START mobilized to the Site, arrived at 1500 hours, and integrated into the incident command structure.

EMERGENCY RESPONSE ACTIVITIES

U.S. EPA and WESTON START arrived at the ER scene at 1500 hours on October 9, 2010, and met with Euclid Chemical representatives, fire departments, IEPA, and the incident commander. U.S. EPA was given an air monitoring mission to support firefighting activities and community protection. U.S. EPA deployed equipment to monitor ambient air for carbon monoxide (CO), particulates, and volatile organic compounds (VOC) downwind and up to 1 mile from the fire, within the incident command post area, and along the property perimeter. WESTON START personnel conducted air monitoring activities continuously (24 hours a day) by rotating personnel on 12-hour shifts. In addition, WESTON START collected written and photographic documentation. **Attachment B** provides a photographic log of Site conditions and ER activities. Air monitoring and air sampling results are discussed in detail in the following two sections. Local sheriff's departments and IDOT supervised perimeter control and road closures. U.S. EPA initiated consultation with the Agency for Toxic Substance and Disease Registry (ATSDR) and coordinated with the local health department.

On October 10, 2010, Union Pacific Railroad mobilized the Center for Toxicology and Environmental Health (CTEH) to the Site to conduct air monitoring for railroad workers and passengers. Euclid Chemical also contracted CTEH to perform air monitoring. The fire departments decided to cease firefighting operations so that the fire could burn itself out. All fire departments demobilized from the Site, and State Route 6, south of the facility, was reopened.



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In the overnight and early morning hours of October 11, 2010, WESTON START and CTEH overlapped 24-hour air monitoring activities. U.S. EPA oversaw the transfer of responsibility for 24-hour air monitoring from WESTON START to CTEH. CTEH used the same methods as those used by WESTON START and monitored the air for the same constituents as WESTON START. Jointly, a data-sharing plan was developed. The PRP cleanup contractor, Clean Harbors, began cleanup activities. The PRP environmental consultant, Environmental Resource Management (ERM), arrived at the Site. IL 40, east of the facility, was reopened as smoke subsided.

On October 12, 2010, CTEH continued 24-hour air monitoring operations. Clean Harbors continued cleanup activities by isolating empty drums and removing contaminated soil. The Illinois State Fire Marshall was on Site to continue with an on-going investigation.

On October 13, 2010, CTEH continued 24-hour air monitoring operations. The Sheffield Fire Department soaked smoldering areas with water at the request of Clean Harbors. Clean Harbors continued cleanup activities by isolating empty drums and peeling portions of the building back to gain access to certain parts of the building.

On October 14, 2010, Clean Harbors began demolition activities. The south and west walls of the south warehouse were removed. Smoldering materials were removed from the warehouse and placed into a roll-off box, spread out in containment, and allowed to cool. During the material removal process from the smoldering area, a flare-up began and water was used to douse the flames. A smoldering drum was removed from the north end of the building and extinguished in a containment area. The crushing of empty drums in the containment area began. CTEH continued air monitoring at the Site and surrounding areas.

By the afternoon of October 14, 2010, the south warehouse was not emitting smoke, and smoke from the north warehouse was visible only through the building's doors or windows. The smoke was not visible beyond the roofline of the building or the outer wall of the facility. After consultation with the Bureau County Health Department and IEPA, U.S. EPA and WESTON START departed the Site. On the evening of October 14, 2010, IEPA took over all on-site oversight activities.

U.S. EPA requested to continue receiving all air monitoring and sampling data from CTEH. CTEH continued to monitor the air 24 hours a day until analytical and monitoring data showed no air threat exceeding residential air standards. On October 18, 2010, CTEH ceased air monitoring activities.

AIR MONITORING RESULTS



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U.S. EPA established two types of air monitoring locations: smoke plume and community monitoring. The smoke plume monitoring locations were situated within 1 mile of the Site and in or near the smoke plume. **Figure 3 in Attachment A** shows these locations marked by pink stars and labeled as Locations 17, 18, and 19. WESTON START stationed one AreaRAE to monitor for VOCs and CO and one DataRAM to monitor for particulates at each of these locations. Because prevailing winds were from the southwest during the ER, the instruments were stationed east, north, and northeast of the Site. WESTON START occasionally moved Locations 17, 18, and 19 at the request of U.S. EPA because of small changes in the wind direction. These alternate Locations are referred to as 17B, 18B, and 19B. **Attachment C** presents the downloaded instrument air monitoring results collected and logged by the AreaRAE and DataRAM instruments operated by WESTON START. **Attachment D** presents air monitoring results collected by CTEH.

Air monitoring results for these smoke plume locations using AreaRAE and DataRAM instruments were at background levels, and all results were below National Institute for Occupational Safety and Health (NIOSH) and Occupational Safety and Health Administration (OSHA) exposure limits. WESTON START air monitoring recorded CO levels up to 5 parts per million (ppm), particulates levels up to 10.96 micrograms per cubic meter (mg/m^3) (attributable to a temporarily dusty road condition), and VOCs at levels up to 6.8 ppm. In addition, on October 9, 2010, four acid colorimetric tubes were used to monitor air downwind in the plume. Acids were not detected. CTEH recorded CO at levels up to 7.6 ppm, VOCs at levels up to 2.6 ppm, and particulates at levels up to 1.0 mg/m^3 . CTEH monitored for the presence of ammonia (0.2 ppm), hydrogen cyanide (0.1 ppm), and nitrogen oxides (2 ppm) in the smoke plume using colorimetric tubes. WESTON START and CTEH air monitoring results did not indicate the presence of hydrogen sulfide (H_2S) or combustible gas (lower explosive limit [LEL]). When averaged to account for the 8-hour workday, all particulate WESTON START and CTEH air monitoring levels were below the ATSDR's Time-Weighted Average (TWA) action level of 0.15 mg/m^3 . Air monitoring also occurred at the Incident Command Post (ICP) using hand-held instruments and is discussed below.

Community monitoring was established to monitor the incident perimeter and the community. These locations were further from the fire than Locations 17, 18, and 19 and were monitored using handheld instruments on a regular basis. **Figure 3 in Attachment A** shows these locations marked by red and gray circles and labeled as Locations 1 through 11 and "Incident Command Post." Perimeter air monitoring was conducted using a MultiRAE for CO, H_2S , VOCs, oxygen (O_2), and LEL and a Personal DataRAM for particulates. The location of the ICP was chosen based on its upwind position; air monitoring results at the ICP were at background levels. **Table E-1 in Attachment E** summarizes the community and ICP air monitoring results collected using handheld instruments.



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AIR SAMPLING RESULTS

Representatives from the town of Wyanet, Illinois, 5 miles east of the Site, became concerned about the possible health effects of the smoke plume. The Wyanet representatives brought their concerns to U.S. EPA, and U.S. EPA agreed to collect a 24-hour SUMMA canister sample in Wyanet. On the morning of October 10, 2010, a SUMMA canister was deployed on the north side of the volunteer fire department building to collect sample ECP-101010-AIR01. **Figure 4** in **Attachment A** shows this sampling location. **Attachment F** presents the WESTON START air sampling results. The sample was analyzed by STAT Analysis Corporation of Chicago, Illinois, using U.S. EPA Method TO-15. None of the results exceeded regulatory levels, and six compounds were detected: 2-butanone, acetone, benzene, dichlorodifluoromethane, toluene, and vinyl acetate.

CTEH conducted air sampling for VOCs, semivolatile organic compounds (SVOC), and organic amines using mini SUMMA canisters and sorbent media. **Attachment G** provides the CTEH air sampling results. Based on the analytical laboratory reports provided by CTEH, 46 VOC samples, 86 SVOC samples, and 6 organic amines samples were collected from October 10 through 18, 2010. The VOCs acetone, isopropyl alcohol, benzene, and toluene were detected at low levels in 10 samples. SVOCs and organic amines were not detected.

SUMMARY

ER activities were conducted at the Site from October 9 through October 14, 2010. Air monitoring and additional fire suppression activities were conducted from October 14 through October 18, 2010. Air monitoring was conducted throughout the response by WESTON START on behalf of U.S. EPA and by CTEH on behalf of the PRP. Analytical results for air samples collected by WESTON START and the PRP contractor indicate that concentrations of all chemicals of concern were below applicable health standards.

On October 14, 2010, U.S. EPA and WESTON START demobilized from the Site and turned over the lead oversight role to IEPA.

On October 18, 2010, after the PRP had suppressed the fire and demonstrated through air monitoring and air sampling data that there were no health concerns, U.S. EPA and IEPA returned incident management responsibilities to the PRP.



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If you have any questions or comments regarding this report or need additional copies, please contact WESTON START at (312) 424-3300.

Very truly yours,
WESTON SOLUTIONS, INC.

A blue ink signature, appearing to read "Jay Rauh", written in a cursive style.

Jay Rauh
WESTON START

A black ink signature, appearing to read "Lisa Graczyk", written in a cursive style.

Lisa Graczyk
WESTON START Project Manager

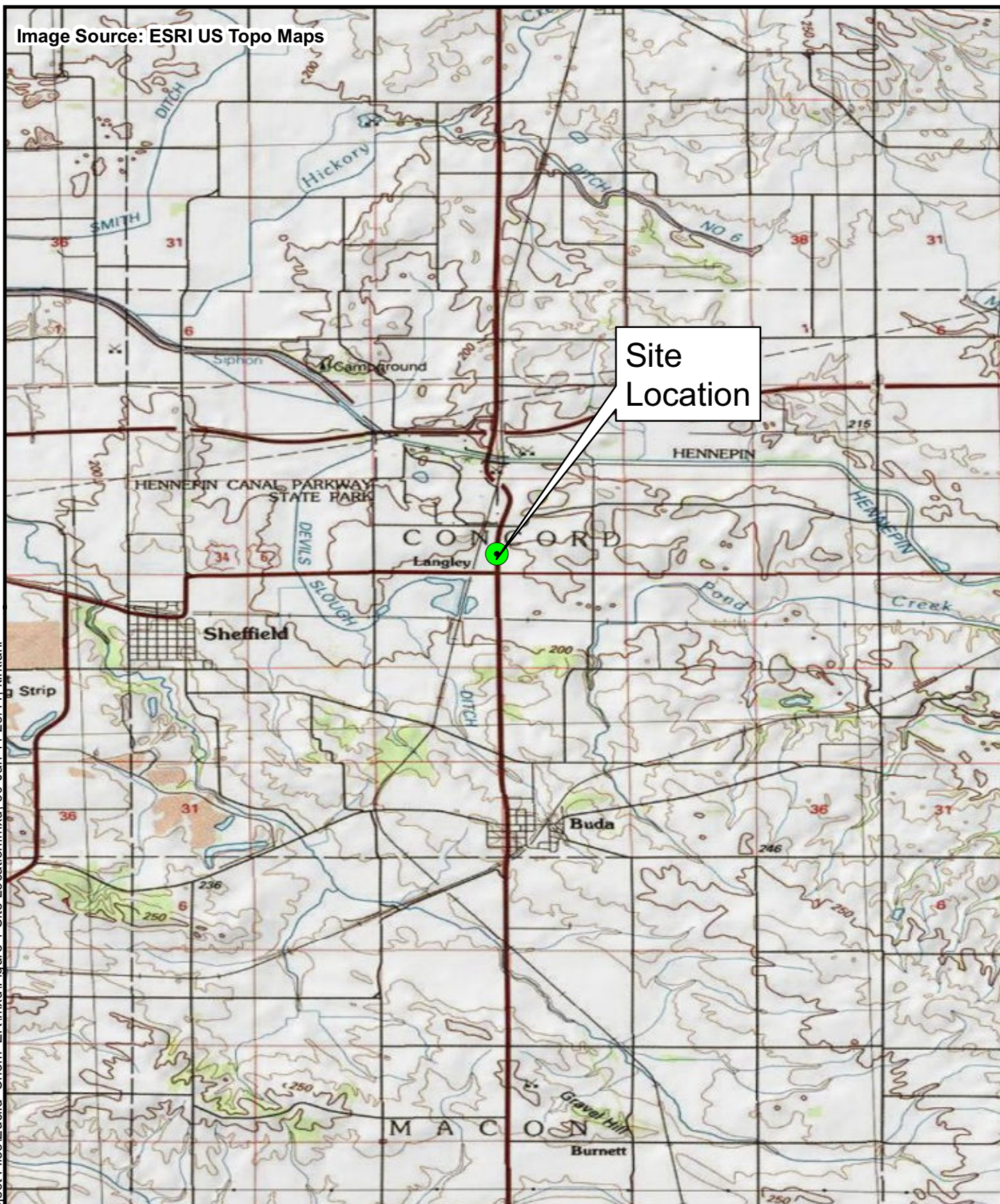
Attachments:

A – Figures	E – Air Monitoring Results for Handheld Instruments
B – Photographic Documentation	F – Air Sampling Results
C – Air Monitoring Data	G – PRP Air Sampling Results
D – PRP Air Monitoring Data	

cc: WESTON START DCN File

ATTACHMENT A
FIGURES

Image Source: ESRI US Topo Maps



File: C:\START Project Files\Euclid Chem. ER\mxd\Figure 1 Site Location.mxd 30-Jan-11 23:41, kirkland

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Prepared for:
U.S. EPA REGION V

Contract No.: EP-S5-06-04
TDD No. S05-0001-1010-010
DCN 1241-2A-ALHZ

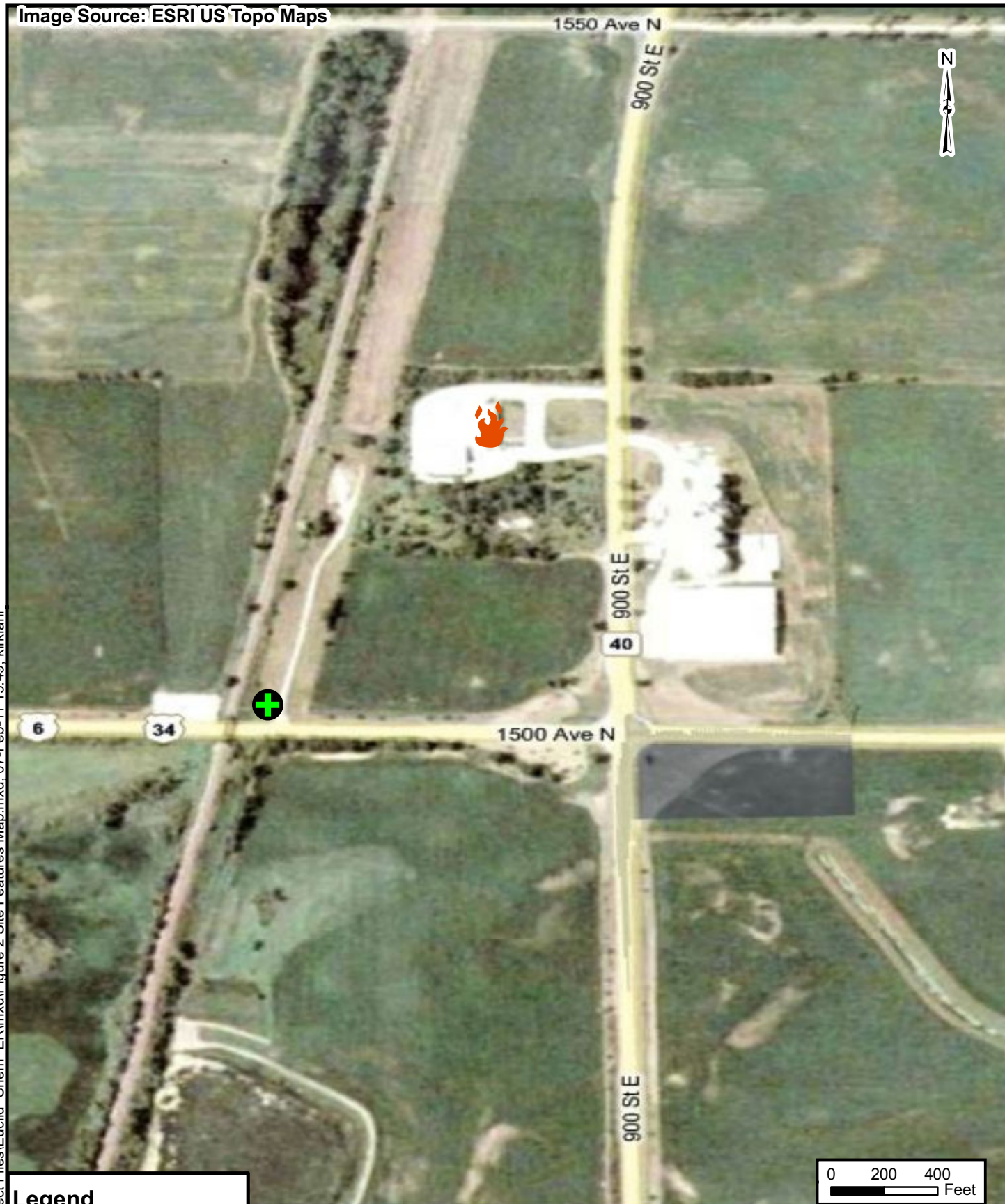


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Figure 1
Site Location Map
Euclid Chemical Fire
Sheffield, Bureau County, Illinois

Image Source: ESRI US Topo Maps



Legend



Euclid Chemical Fire



Incident Command Pos



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Figure 2
Site Features Map
Euclid Chemical Fire
Sheffield, Bureau County, Illinois

File: C:\START Project Files\Euclid Chem_ER\mxd\Figure 3 Air Monitoring Locations Map.mxd, 15-Feb-11 16:46, kirkland

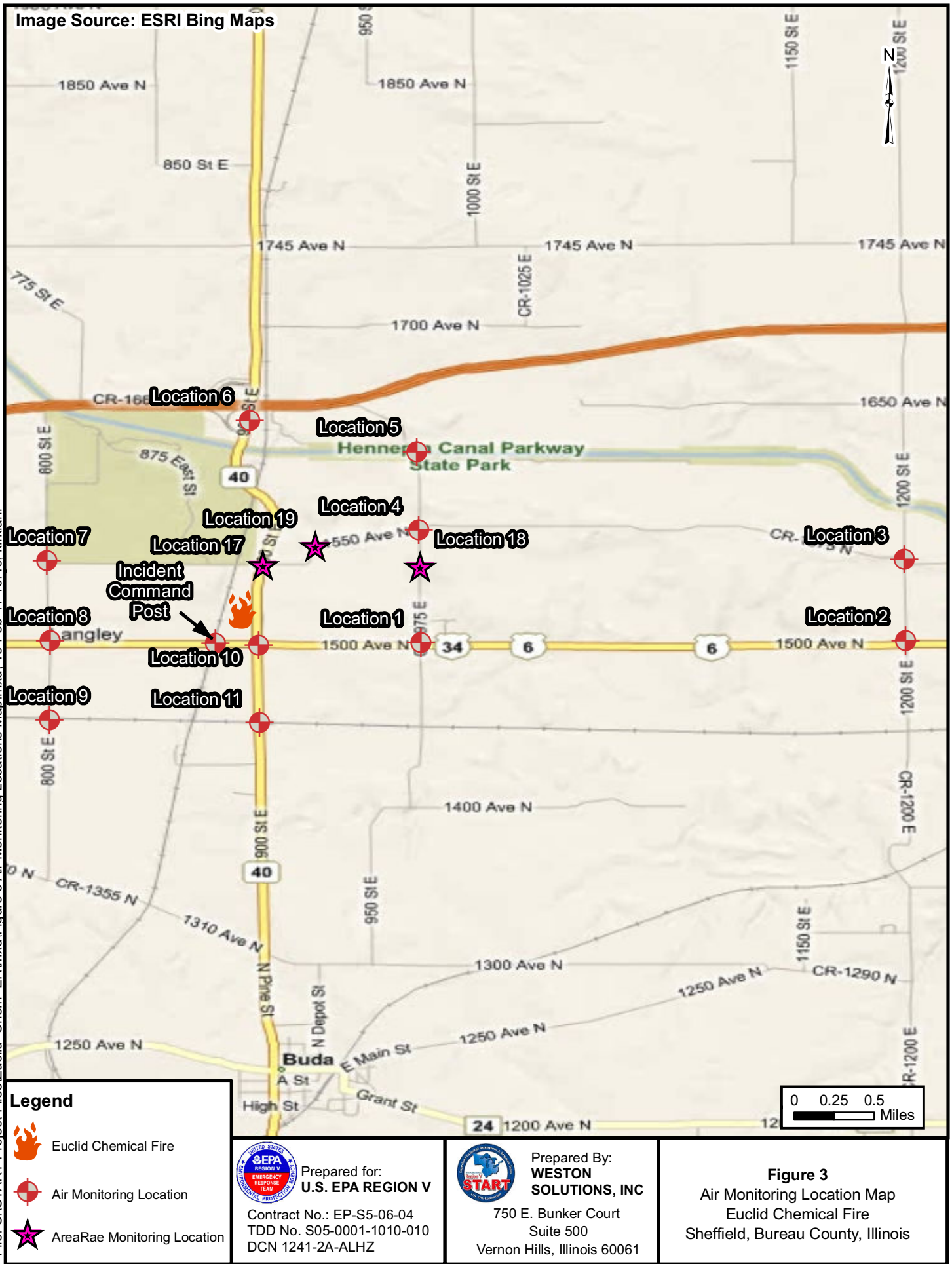
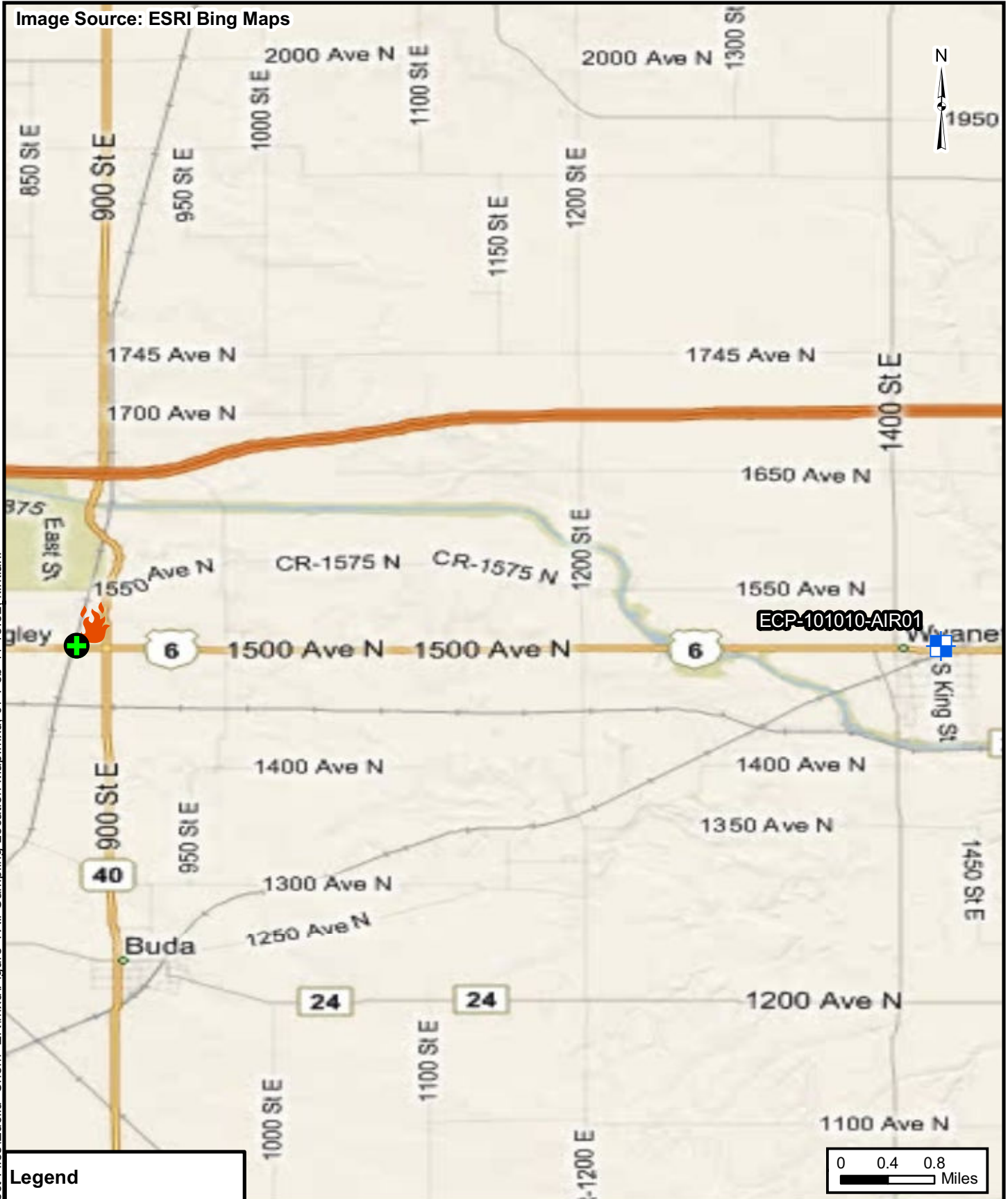





Image Source: ESRI Bing Maps



Legend

-  Euclid Chemical Fire
-  Incident Command Post
-  Air Sampling Location



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U.S. EPA REGION V

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Figure 4
Air Sampling Location Map
Euclid Chemical Fire
Sheffield, Bureau County, Illinois

ATTACHMENT B
PHOTOGRAPHIC DOCUMENTATION



Site: Euclid Chemical Fire

Photograph No.: 1

Direction: East

Subject: Fire burns at the Euclid Chemical facility

Date: 10/9/10

Photographer: Ramon Mendoza



Site: Euclid Chemical Fire

Photograph No.: 2

Direction: East

Subject: Fire burns at the Euclid Chemical facility

Date: 10/9/10

Photographer: Jay Rauh



Site: Euclid Chemical Fire

Photograph No.: 3

Direction: Down

Subject: WESTON START member Jeff Bryniarski screening a fireman's clothes for VOCs using a MultiRAE

Date: 10/9/10

Photographer: Jay Rauh



Site: Euclid Chemical Fire

Photograph No.: 4

Direction: North

Subject: Fire spread into wooded areas near the facility

Date: 10/9/10

Photographer: WESTON START



Site: Euclid Chemical Fire

Photograph No.: 5

Direction: South

Subject: Bulging and compromised drums

Date: 10/9/10

Photographer: Ramon Mendoza



Site: Euclid Chemical Fire

Photograph No.: 6

Direction: West

Subject: The smoke plume continued to drift north-northeast as the fire smoldered

Date: 10/9/10

Photographer: Jay Rauh



Site: Euclid Chemical Fire

Photograph No.: 7

Direction: North

Date: 10/9/10

Photographer: Jay Rauh

Subject: Firefighters setting up a sand berm to contain liquid runoff from fighting the fire



Site: Euclid Chemical Fire

Photograph No.: 8

Direction: West

Date: 10/10/10

Photographer: Jay Rauh

Subject: WESTON START member Jeff Bryniarski and RP contractor, CTEH, monitoring air at Location 18B



Site: Euclid Chemical Fire

Photograph No.: 9

Direction: South

Subject: Incident Command Post for the response

Date: 10/10/10

Photographer: Jay Rauh



Site: Euclid Chemical Fire

Photograph No.: 10

Direction: Southeast

Subject: Collection of air sample ECP-101010-AIR01

Date: 10/10/10

Photographer: WESTON START



Site: Euclid Chemical Fire

Photograph No.: 11

Direction: Southeast

Subject: WESTON START member, Randy Mileur checking air sample ECP-101010-AIR01

Date: 10/10/10

Photographer: WESTON START



Site: Euclid Chemical Fire

Photograph No.: 12

Direction: Northwest

Subject: Firefighters containing firefighting water

Date: 10/10/10

Photographer: WESTON START



Site: Euclid Chemical Fire

Photograph No.: 13

Direction: North

Subject: Air monitoring and air sampling station for RP contractor, CTEH

Date: 10/10/10

Photographer: WESTON START



Site: Euclid Chemical Fire

Photograph No.: 14

Direction: East

Subject: Degraded and bulging drums at the facility

Date: 10/10/10

Photographer: Ramon Mendoza



Site: Euclid Chemical Fire

Photograph No.: 15

Direction: North

Subject: Fire-damaged wooded area and liquid runoff

Date: 10/10/10

Photographer: WESTON START



Site: Euclid Chemical Fire

Photograph No.: 16

Direction: Down

Subject: Firefighting liquid runoff

Date: 10/10/10

Photographer: WESTON START



Site: Euclid Chemical Fire
Photograph No.: 17
Direction: West
Subject: Burned fire hose

Date: 10/10/10
Photographer: WESTON START



Site: Euclid Chemical Fire
Photograph No.: 18
Direction: Southwest
Subject: Fire-damaged main entrance to the Euclid Chemical facility building

Date: 10/11/10
Photographer: Jay Rauh



Site: Euclid Chemical Fire

Photograph No.: 19

Date: 10/11/10

Direction: South

Photographer: Jay Rauh

Subject: Fire-damaged portion of the Euclid Chemical facility

ATTACHMENT C
AIR MONITORING DATA

ATTACHMENT D
PRP AIR MONITORING DATA

ATTACHMENT E
AIR MONITORING RESULTS FOR HANDHELD INSTRUMENTS

Table E-1
Air Monitoring Results for Handheld Instruments
Euclid Chemical Fire
Sheffield, Bureau County, Illinois

Date	Time	Location	VOC Reading (ppm)	H₂S Reading (ppm)	CO Reading (ppm)	LEL Reading (%)	O₂ Reading (%)	Particulates Reading (µg/m³)
10/9/2010	2000	17	0	0	0	0	20.9	373
10/9/2010	2005	19	0	0	0	0	20.9	373
10/9/2010	2010	18	0	0	0	0	20.9	37.6
10/9/2010	2040	1	1.2	0	0	0	20.9	NR
10/9/2010	2045	2	1.2	0	0	0	20.9	NR
10/9/2010	2050	3	1.2	0	0	0	20.9	NR
10/9/2010	2055	4	1.2	0	0	0	20.9	NR
10/9/2010	2100	5	1.2	0	0	0	20.9	NR
10/9/2010	2105	6	1.2	0	1	0	20.9	NR
10/9/2010	2110	7	1.2	0	0	0	20.9	NR
10/9/2010	2115	8	1.2	0	0	0	20.9	NR
10/9/2010	2120	9	1.2	0	0	0	20.9	NR
10/9/2010	2125	10	1.2	0	0	0	20.9	NR
10/9/2010	2130	11	1.2	0	0	0	20.9	NR
10/9/2010	2150	18	0	0	0	0	20.9	78.3
10/9/2010	2155	19	0	0	0	0	20.9	250
10/9/2010	2205	17	0	0	0	0	20.9	162.5
10/10/2010	0025	18	0.1	0	0	0	20.9	33.2
10/10/2010	0036	18B	0	0	0	0	20.9	139
10/10/2010	0047	19	0	0	0	0	20.9	236
10/10/2010	0055	17	0	0	0	0	20.9	222.6
10/10/2010	0102	17	0	0	0	0	20.9	233.3
10/10/2010	0109	1	0	0	0	0	20.9	NR
10/10/2010	0114	2	0	0	0	0	20.9	NR
10/10/2010	0117	3	0	0	0	0	20.9	NR
10/10/2010	0121	4	0	0	0	0	20.9	NR
10/10/2010	0130	5	0	0	0	0	20.9	NR
10/10/2010	0135	6	0	0	0	0	20.9	NR
10/10/2010	0146	7	0	0	0	0	20.9	NR
10/10/2010	0150	8	0	0	0	0	20.9	NR
10/10/2010	0153	9	0	0	0	0	20.9	NR
10/10/2010	0156	10	0	0	0	0	20.9	NR
10/10/2010	0200	11	0	0	0	0	20.9	NR
10/10/2010	0445	18B	0	0	0	0	20.9	0
10/10/2010	0458	18	0	0	0	0	20.9	180
10/10/2010	0504	19	0	0	0	0	20.9	662
10/10/2010	0510	17	0	0	0	0	20.9	223
10/10/2010	0512	17B	0	0	0	0	20.9	16
10/10/2010	0518	1	0	0	0	0	20.9	69

Table E-1
Air Monitoring Results for Handheld Instruments
Euclid Chemical Fire
Sheffield, Bureau County, Illinois

Date	Time	Location	VOC Reading (ppm)	H₂S Reading (ppm)	CO Reading (ppm)	LEL Reading (%)	O₂ Reading (%)	Particulates Reading (µg/m³)
10/10/2010	0523	2	0	0	0	0	20.9	46
10/10/2010	0523	3	0	0	0	0	20.9	482
10/10/2010	0532	4	0	0	0	0	20.9	610
10/10/2010	0537	5	0	0	0	0	20.9	483
10/10/2010	0543	6	0	0	0	0	20.9	0
10/10/2010	0549	7	0	0	0	0	20.9	0
10/10/2010	0552	8	0	0	0	0	20.9	0
10/10/2010	0555	9	0	0	0	0	20.9	390
10/10/2010	0559	10	0	0	0	0	20.9	0
10/10/2010	0602	11	0	0	0	0	20.9	18
10/10/2010	0659	10	0	0	0	0	20.9	0
10/10/2010	0703	18B	0	0	0	0	20.9	45
10/10/2010	0710	19	0	0	0	0	20.9	501
10/10/2010	0715	17B	0	0	0	0	20.9	46
10/10/2010	0726	10	0	0	0	0	20.9	NR
10/10/2010	0729	ICP	0	0	0	0	20.9	NR
10/10/2010	0734	7	0	0	0	0	20.9	NR
10/10/2010	0736	8	0	0	0	0	20.9	NR
10/10/2010	0920	18B	0	0	0	0	20.9	16
10/10/2010	0925	1	0	0	0	0	20.9	0
10/10/2010	0930	4	0	0	0	0	20.9	0
10/10/2010	0935	19	0	0	0	0	20.9	136
10/10/2010	0940	17B	0	0	0	0	20.9	13
10/10/2010	0945	5	0	0	0	0	20.9	0
10/10/2010	0950	7	0	0	0	0	20.9	0
10/10/2010	0955	8	0	0	0	0	20.9	0
10/10/2010	1000	Sheffield	0	0	0	0	20.9	0
10/10/2010	1045	18B	0	0	0	0	20.9	0
10/10/2010	1230	Wyanet	0	0	0	0	20.9	NR
10/10/2010	1345	18B	0	0	1	0	20.9	29.4
10/10/2010	1350	1	0	0	0	0	20.9	NR
10/10/2010	1355	4	0	0	0	0	20.9	0
10/10/2010	1400	19	0.2	0	0	0	20.9	100.3
10/10/2010	1405	17	0.2	0	0	0	20.9	82
10/10/2010	1410	17B	0	0	0	0	20.9	NR
10/10/2010	1545	18B	0	0	0	0	20.9	0
10/10/2010	1548	1	0	0	0	0	20.9	0
10/10/2010	1605	19	0	0	0	0	20.9	89
10/10/2010	1656	18B	0	0	0	0	20.9	0

Table E-1
Air Monitoring Results for Handheld Instruments
Euclid Chemical Fire
Sheffield, Bureau County, Illinois

Date	Time	Location	VOC Reading (ppm)	H₂S Reading (ppm)	CO Reading (ppm)	LEL Reading (%)	O₂ Reading (%)	Particulates Reading (µg/m³)
10/10/2010	1705	Wyandot	0	0	0	0	20.9	0
10/10/2010	1746	1	0.1	0	0	0	20.9	0
10/10/2010	1751	4	0.2	0	0	0	20.9	41
10/10/2010	1756	5	0.1	0	0	0	20.9	NR
10/10/2010	1800	19	0	0	0	0	20.9	NR
10/10/2010	1805	17B	0	0	0	0	20.9	NR
10/10/2010	1809	ICP	0	0	0	0	20.9	NR
10/10/2010	1812	7	0	0	0	0	20.9	NR
10/10/2010	2204	17B	0	0	0	0	20.9	0
10/10/2010	2210	18B	0	0	0	0	20.9	0
10/10/2010	2014	18	0	0	0	0	20.9	91
10/10/2010	2218	19	0	0	0	0	20.9	250
10/10/2010	2221	17	0	0	0	0	20.9	0
10/10/2010	2228	ICP	0	0	0	0	20.9	0
10/10/2010	2235	1	0	0	0	0	20.9	0
10/10/2010	2242	2	0	0	0	0	20.9	0
10/10/2010	2245	3	0	0	0	0	20.9	0
10/10/2010	2252	4	0	0	0	0	20.9	288
10/10/2010	2301	5	0	0	0	0	20.9	0
10/10/2010	2311	6	0	0	0	0	20.9	1
10/10/2010	2321	7	0	0	0	0	20.9	0
10/10/2010	2325	8	0	0	0	0	20.9	0
10/10/2010	2328	9	0	0	0	0	20.9	0
10/10/2010	2332	10	0	0	0	0	20.9	0
10/10/2010	2335	11	0	0	0	0	20.9	0
10/10/2010	2340	ICP	0	0	0	0	20.9	1
10/11/2010	0146	1	0	0	0	0	20.9	0
10/11/2010	0157	2	0	0	0	0	20.9	0
10/11/2010	0203	3	0	0	0	0	20.9	0
10/11/2010	0209	4	0	0	0	0	20.9	120
10/11/2010	0214	5	0	0	0	0	20.9	379
10/11/2010	0219	17	0	0	0	0	20.9	14
10/11/2010	0224	6	0	0	0	0	20.9	0
10/11/2010	0229	7	0	0	0	0	20.9	0
10/11/2010	0232	8	0	0	0	0	20.9	0
10/11/2010	0235	9	0	0	0	0	20.9	4
10/11/2010	0239	10	0	0	0	0	20.9	73
10/11/2010	0241	11	0	0	0	0	20.9	20
10/11/2010	0246	18B	0	0	0	0	20.9	0

Table E-1
Air Monitoring Results for Handheld Instruments
Euclid Chemical Fire
Sheffield, Bureau County, Illinois

Date	Time	Location	VOC Reading (ppm)	H₂S Reading (ppm)	CO Reading (ppm)	LEL Reading (%)	O₂ Reading (%)	Particulates Reading (µg/m³)
10/11/2010	0250	18	0	0	0	0	20.9	0
10/11/2010	0254	19	0	0	0	0	20.9	36
10/11/2010	0258	ICP	0	0	0	0	20.9	13
10/11/2010	0303	17B	0	0	0	0	20.9	2
10/11/2010	0647	18B	0	0	0	0	20.9	0
10/11/2010	0914	1	0.1	0	0	0	20.9	0
10/11/2010	0916	4	0	0	0	0	20.9	0
10/11/2010	0920	19	0	0	0	0	20.9	0
10/11/2010	0931	19b	0.7	0	0	0	20.9	254
10/11/2010	0942	ICP	0	0	0	0	20.9	0
10/11/2010	1001	5	0.7	0	1	0	20.9	4
10/11/2010	1010	3	0.4	0	1	0	20.9	4
10/11/2010	1016	2	0	0	0	0	20.9	0
10/11/2010	1025	Wyantet	0	0	0	0	20.9	0
10/11/2010	1049	10	0	0	0	0	20.9	0
10/11/2010	1055	11	0	0	0	0	20.9	0
10/11/2010	1101	9	0	0	0	0	20.9	0
10/11/2010	1106	8	0	0	0	0	20.9	0
10/11/2010	1109	7	0	0	0	0	20.9	0
10/11/2010	1115	6	0	0	0	0	20.9	0
10/11/2010	1204	18B	0	0	0	0	20.9	0
10/11/2010	1210	1	0	0	0	0	20.9	0
10/11/2010	1311	2	0	0	0	0	20.9	0
10/11/2010	1315	3	0.6	0	0	0	20.9	0
10/11/2010	1321	5	0	0	0	0	20.9	0
10/11/2010	1325	4	0	0	0	0	20.9	0
10/11/2010	1328	19	0	0	0	0	20.9	0
10/11/2010	1332	17B	0	0	0	0	20.9	226
10/11/2010	1338	6	0	0	0	0	20.9	0
10/11/2010	1344	ICP	0	0	0	0	20.9	0
10/11/2010	1346	7	0	0	0	0	20.9	0
10/11/2010	1349	8	0	0	1	0	20.9	0
10/11/2010	1354	9	0	0	1	0	20.9	0
10/11/2010	1357	11	0	0	0	0	20.9	0
10/11/2010	1400	10	0.6	0	0	0	20.9	0
10/11/2010	1458	18B	0	0	0	0	20.9	0
10/11/2010	1503	1	0	0	0	0	20.9	0
10/11/2010	1508	5	0	0	0	0	20.9	0
10/11/2010	1516	3	0	0	0	0	20.9	0

Table E-1
Air Monitoring Results for Handheld Instruments
Euclid Chemical Fire
Sheffield, Bureau County, Illinois

Date	Time	Location	VOC Reading (ppm)	H₂S Reading (ppm)	CO Reading (ppm)	LEL Reading (%)	O₂ Reading (%)	Particulates Reading (µg/m³)
10/11/2010	1518	2	0	0	0	0	20.9	0
10/11/2010	1524	4	0	0	0	0	20.9	73
10/11/2010	1529	19	0	0	0	0	20.9	0
10/11/2010	1533	17B	0	0	0	0	20.9	195
10/11/2010	1539	6	0	0	0	0	20.9	0
10/11/2010	1542	ICP	0	0	0	0	20.9	0
10/11/2010	1546	7	0	0	0	0	20.9	0
10/11/2010	1548	8	0	0	0	0	20.9	0
10/11/2010	1553	9	0	0	0	0	20.9	0
10/11/2010	1559	11	0	0	0	0	20.9	0
10/11/2010	1603	10	0	0	0	0	20.9	0
10/11/2010	1754	18B	0	0	0	0	20.9	0
10/11/2010	1803	19	0	0	0	0	20.9	0
10/11/2010	1814	ICP	0	0	0	0	20.9	19
10/11/2010	1820	17B	0	0	0	0	20.9	342
10/11/2010	2018	18B	0	0	0	0	20.9	0
10/11/2010	2029	18	0	0	0	0	20.9	16
10/11/2010	2037	19	0	0	0	0	20.9	10
10/11/2010	2042	17	0	0	0	0	20.9	28
10/11/2010	2050	17B	0	0	5	0	20.9	355
10/11/2010	2103	10	0	0	0	0	20.9	8
10/11/2010	2109	11	0	0	0	0	20.9	2
10/11/2010	2201	7	0	0	0	0	20.9	0
10/11/2010	2204	8	0	0	0	0	20.9	31
10/11/2010	2209	9	0	0	0	0	20.9	97
10/12/2010	0107	7	0	0	0	0	20.9	0
10/12/2010	0114	8	0	0	0	0	20.9	11
10/12/2010	0119	9	0	0	0	0	20.9	127
10/12/2010	0124	10	0	0	0	0	20.9	6
10/12/2010	0127	11	0	0	0	0	20.9	0
10/12/2010	0132	18B	0	0	0	0	20.9	0
10/12/2010	0140	1	0	0	0	0	20.9	14
10/12/2010	0157	2	0	0	0	0	20.9	29
10/12/2010	0214	3	0	0	0	0	20.9	204
10/12/2010	0217	4	0	0	0	0	20.9	182
10/12/2010	0219	19	0	0	0	0	20.9	92
10/12/2010	0222	17	0	0	1	0	20.9	47
10/12/2010	0228	7	0	0	0	0	20.9	0
10/12/2010	0236	8	0	0	0	0	20.9	25

Table E-1
Air Monitoring Results for Handheld Instruments
Euclid Chemical Fire
Sheffield, Bureau County, Illinois

Date	Time	Location	VOC Reading (ppm)	H₂S Reading (ppm)	CO Reading (ppm)	LEL Reading (%)	O₂ Reading (%)	Particulates Reading (µg/m³)
-------------	-------------	-----------------	----------------------------------	---------------------------------------------	---------------------------------	--------------------------------	------------------------------------------	--------------------------------------------------------

Notes:

µg/m³ = Microgram per cubic meter

CO = Carbon monoxide

H₂S = Hydrogen sulfide

ICP = Incident Command Post

LEL = Lower explosive limit

NR = Not recorded

O₂ = Oxygen

ppm = Part per million

VOC = Volatile organic compound

ATTACHMENT F
AIR SAMPLING RESULTS

STAT Analysis Corporation

2242 West Harrison St., Suite 200, Chicago, IL 60612-3766

Tel: (312) 733-0551 Fax: (312) 733-2386 STATinfo@STATAnalysis.com

Accreditation Numbers: IEPA ELAP 100445; ORELAP IL300001; AIHA 101160; NVLAP LabCode 101202-0

October 15, 2010

Weston Solutions
750 E. Bunker Court
Suite 500
Vernon Hills, IL 60061
Telephone: (847) 918-4000
Fax: (847) 918-4055

RE: 20405.012.001.1241.00, Euclid Chemical Fire

STAT Project No: 10100361

Dear Lisa Graczyk:

STAT Analysis received 1 sample for the referenced project on 10/13/2010 2:30:00 PM. The analytical results are presented in the following report.

All analyses were performed in accordance with the requirements of 35 IAC Part 186 / NELAC standards. Analyses were performed in accordance with methods as referenced on the analytical report. Those analytical results expressed on a dry weight basis are also noted on the analytical report.

All analyses were performed within established holding time criteria, and all Quality Control criteria met EPA or laboratory specifications except when noted in the Case Narrative or Analytical Report. If required, an estimate of uncertainty for the analyses can be provided. A listing of accredited methods/parameters can also be provided.

Thank you for the opportunity to serve you and I look forward to working with you in the future. If you have any questions regarding the enclosed materials, please contact me at (312) 733-0551.

Sincerely,



Donald R. Cortes, Ph.D.
Laboratory Director

The information contained in this report and any attachments is confidential information intended only for the use of the individual or entities named above. The results of this report relate only to the samples tested. If you have received this report in error, please notify us immediately by phone. This report shall not be reproduced, except in its entirety, unless written approval has been obtained from the laboratory.

CLIENT: Weston Solutions
Project: 20405.012.001.1241.00, Euclid Chemical Fire
Lab Order: 10100361

CASE NARRATIVE

Air canister was provided by customer.

Cumene, a C3 alkylbenzene, was searched for as a TIC. No non-target C3 alkylbenzene was detected above 0.2 ppbv.

SPECIAL COMMENTS RELATING TO TENTATIVELY IDENTIFIED COMPOUNDS (TICS):

Up to 30 Tentatively Identified Compounds (TICs) were identified and reported. TICs were quantitated relative to internal standards, and therefore results are semi-quantitative. Compounds were identified using mass spectral interpretation techniques and a NIST reference library. All identifications were reviewed by an experienced mass spectrometrists.

TICs for each sample are flagged with a "Z" indicating an estimated concentration and a "*" indicating a non-accredited parameter.

Results that are reported in $\mu\text{g}/\text{m}^3$ are calculated based on a temperature of 25°C, atmospheric pressure of 760 mm Hg, and the molecular weight of the analyte.

The EPA_25C closing CCV analyzed 10/15/10 had the following outside of control limits:
Carbon dioxide: 87% recovery (QC Limits 90-110%)

Client: Weston Solutions**Project:** 20405.012.001.1241.00, Euclid Chemical Fire**Lab Order:** 10100361**Work Order Sample Summary**

Lab Sample ID	Client Sample ID	Tag Number	Collection Date	Date Received
10100361-001A	ECP-101010-Air 01		10/11/2010 10:25:00 AM	10/13/2010

STAT Analysis Corporation

2242 West Harrison St., Suite 200, Chicago, IL 60612-3766

Tel: (312) 733-0551 Fax: (312) 733-2386 STATinfo@STATAnalysis.com

Accreditation Numbers: IEPA ELAP 100445; ORELAP IL300001; AIHA 101160; NVLAP LabCode 101202-0

Report Date: October 15, 2010

Print Date: October 15, 2010

Client:	Weston Solutions	Client Sample ID	ECP-101010-Air 01
Lab Order:	10100361	Tag Number:	
Project:	20405.012.001.1241.00, Euclid Chemical Fire	Collection Date	10/11/2010 10:25:00 AM
Lab ID:	10100361-001A	Matrix:	Air

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
EPA Method 25						
METHOD 25C			Prep Date: 10/13/2010 Analyst: VP			
Carbon Monoxide	ND	2.6	*	ppmv	1	10/15/2010
Methane	ND	2.6	*	ppmv	1	10/15/2010
Carbon Dioxide	440	26	*	ppmv	10	10/15/2010
Ethane	ND	2.6	*	ppmv	1	10/15/2010
Volatile Organic Compounds in Air by GC/MS						
TO-15			Prep Date: 10/13/2010 Analyst: VP			
1,1,1-Trichloroethane	ND	0.52		ppbv	1	10/14/2010
1,1,2,2-Tetrachloroethane	ND	0.52		ppbv	1	10/14/2010
1,1,2-Trichloroethane	ND	0.52		ppbv	1	10/14/2010
1,1-Dichloroethane	ND	1.3		ppbv	1	10/14/2010
1,1-Dichloroethene	ND	0.52		ppbv	1	10/14/2010
1,2,4-Trichlorobenzene	ND	1.3		ppbv	1	10/14/2010
1,2,4-Trimethylbenzene	ND	0.52		ppbv	1	10/14/2010
1,2-Dibromoethane	ND	0.52		ppbv	1	10/14/2010
1,2-Dichlorobenzene	ND	0.52		ppbv	1	10/14/2010
1,2-Dichloroethane	ND	0.52		ppbv	1	10/14/2010
1,2-Dichloropropane	ND	0.52		ppbv	1	10/14/2010
1,3,5-Trimethylbenzene	ND	0.52		ppbv	1	10/14/2010
1,3-Butadiene	ND	0.52		ppbv	1	10/14/2010
1,3-Dichlorobenzene	ND	0.52		ppbv	1	10/14/2010
1,4-Dichlorobenzene	ND	0.52		ppbv	1	10/14/2010
1,4-Dioxane	ND	2.6		ppbv	1	10/14/2010
2-Butanone	12	1.3		ppbv	1	10/14/2010
2-Hexanone	ND	5.2		ppbv	1	10/14/2010
4-Ethyltoluene	ND	0.52		ppbv	1	10/14/2010
4-Methyl-2-pentanone	ND	2.6		ppbv	1	10/14/2010
Acetone	55	5.2	*	ppbv	1	10/14/2010
Benzene	0.58	0.52		ppbv	1	10/14/2010
Benzyl chloride	ND	2.6		ppbv	1	10/14/2010
Bromodichloromethane	ND	0.52		ppbv	1	10/14/2010
Bromoform	ND	2.6		ppbv	1	10/14/2010
Bromomethane	ND	2.6		ppbv	1	10/14/2010
Carbon disulfide	ND	2.6		ppbv	1	10/14/2010
Carbon tetrachloride	ND	0.52		ppbv	1	10/14/2010
Chlorobenzene	ND	0.52		ppbv	1	10/14/2010
Chloroethane	ND	0.52		ppbv	1	10/14/2010
Chloroform	ND	0.52		ppbv	1	10/14/2010
Chloromethane	ND	2.6		ppbv	1	10/14/2010
cis-1,2-Dichloroethene	ND	0.52		ppbv	1	10/14/2010
cis-1,3-Dichloropropene	ND	0.52		ppbv	1	10/14/2010
Cyclohexane	ND	0.52		ppbv	1	10/14/2010
Dibromochloromethane	ND	0.52		ppbv	1	10/14/2010
Dichlorodifluoromethane	0.58	0.52		ppbv	1	10/14/2010
Ethyl acetate	ND	0.52		ppbv	1	10/14/2010
Ethylbenzene	ND	0.52		ppbv	1	10/14/2010
Freon-113	ND	0.52		ppbv	1	10/14/2010
Freon-114	ND	0.52		ppbv	1	10/14/2010
Heptane	ND	0.52		ppbv	1	10/14/2010
Hexachlorobutadiene	ND	0.52		ppbv	1	10/14/2010
Hexane	ND	2.6		ppbv	1	10/14/2010

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

B - Analyte detected in the associated Method Blank

HT - Sample received past holding time

* - Non-accredited parameter

RL - Reporting / Quantitation Limit for the analysis

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

H - Holding time exceeded

STAT Analysis Corporation

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Accreditation Numbers: IEPA ELAP 100445; ORELAP IL300001; AIHA 101160; NVLAP LabCode 101202-0

Report Date: October 15, 2010

Print Date: October 15, 2010

Client:	Weston Solutions	Client Sample ID	ECP-101010-Air 01
Lab Order:	10100361	Tag Number:	
Project:	20405.012.001.1241.00, Euclid Chemical Fire	Collection Date	10/11/2010 10:25:00 AM
Lab ID:	10100361-001A	Matrix:	Air

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Volatile Organic Compounds in Air by GC/MS TO-15						
				Prep Date: 10/13/2010 Analyst: VP		
Isopropyl Alcohol	ND	2.6		ppbv	1	10/14/2010
m,p-Xylene	ND	1		ppbv	1	10/14/2010
Methyl tert-butyl ether	ND	0.52		ppbv	1	10/14/2010
Methylene chloride	ND	5.2		ppbv	1	10/14/2010
Naphthalene	ND	0.52		ppbv	1	10/14/2010
o-Xylene	ND	0.52		ppbv	1	10/14/2010
Propene	ND	5.2		ppbv	1	10/14/2010
Styrene	ND	0.52		ppbv	1	10/14/2010
Tetrachloroethene	ND	0.52		ppbv	1	10/14/2010
Tetrahydrofuran	ND	1.3		ppbv	1	10/14/2010
Toluene	1.1	0.52		ppbv	1	10/14/2010
trans-1,2-Dichloroethene	ND	0.52		ppbv	1	10/14/2010
trans-1,3-Dichloropropene	ND	1.3		ppbv	1	10/14/2010
Trichloroethene	ND	1.3		ppbv	1	10/14/2010
Trichlorofluoromethane	ND	0.52		ppbv	1	10/14/2010
Vinyl acetate	12	5.2		ppbv	1	10/14/2010
Vinyl chloride	ND	0.52		ppbv	1	10/14/2010
Xylenes, Total	ND	1.6		ppbv	1	10/14/2010

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

B - Analyte detected in the associated Method Blank

HT - Sample received past holding time

* - Non-accredited parameter

RL - Reporting / Quantitation Limit for the analysis

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

H - Holding time exceeded

STAT Analysis Corporation:

2242 W. Harrison, Suite 200, Chicago, Illinois 60612

Tel: 312.733.0551; Fax: 312.733.2386; e-mail address: STATinfo@STATAnalysis.com

Accreditation Numbers: IEPA ELAP 100445; ORELAP IL 300001; AIHA 101160; NVLAP LabCode 101202-0

Date Reported: October 15, 2010

Date Printed: October 15, 2010

Client:	Weston Solutions	Client Sample ID:	ECP-101010-Air 01
Lab Order:	10100361	Collection Date:	10/11/2010
Project:	20405.012.001.1241.00, Euclid Chemical Fire	Matrix:	Air
Lab ID:	10100361-001A		

Analyses	$\mu\text{g}/\text{m}^3$	ppbv	Qualifier	DF	Date Analyzed
TVOC (S TICS + Target Compounds)	955	346	Z*		
Tentatively Identified Compounds (TICS)					
Difluorodimethylsilane	89.1	22.7	Z*	1	10/14/2010
Acetaldehyde	76.1	42.3	Z*	1	10/14/2010
C4H8 Hydrocarbon	6.8	3.0	Z*	1	10/14/2010
Butane	8.3	3.5	Z*	1	10/14/2010
Fluorotrimethylsilane	8.6	2.3	Z*	1	10/14/2010
Ethanol	33.0	17.6		1	10/14/2010
Acrolein	17.7	7.7		1	10/14/2010
Pentane	8.1	2.7	Z*	1	10/14/2010
2-Methylpropanal	6.0	2.0	Z*	1	10/14/2010
Unidentified compound, mw 94	155.0	40.3	Z*	1	10/14/2010
Methacrolein	8.5	3.0	Z*	1	10/14/2010
Butanal	12.6	4.3	Z*	1	10/14/2010
3-Methylpentane	4.2	1.2	Z*	1	10/14/2010
Acetic acid	227.8	92.8	Z*	1	10/14/2010
Butenal isomer	6.5	2.3	Z*	1	10/14/2010
C5H10O Aliphatic ketone	1.5	0.4	Z*	1	10/14/2010
C5H10O Aliphatic ketone	6.0	1.7	Z*	1	10/14/2010
Pentanal isomer	2.6	0.7	Z*	1	10/14/2010
C8H18 Aliphatic hydrocarbon	2.2	0.5	Z*	1	10/14/2010
C8H16 Olefinic hydrocarbon	2.7	0.6	Z*	1	10/14/2010
Unidentified compound	4.0	0.6	Z*	1	10/14/2010
Hexanal isomer	1.5	0.4	Z*	1	10/14/2010
Hexamethylcyclotrisiloxane	21.8	2.4	Z*	1	10/14/2010
C7H14O Aliphatic ketone	2.5	0.5	Z*	1	10/14/2010
Octamethylcyclotetrasiloxane	1.6	0.1	Z*	1	10/14/2010

Qualifiers:	ND - Not Detected at the Reporting Limit	RL - Reporting / Quantitation Limit for the analysis
	J - Analyte detected below quantitation limits	S - Spike Recovery outside accepted recovery limits
	B - Analyte detected in the associated Method Blank	R - RPD outside accepted recovery limits
	HT - Sample received past holding time	E - Value above quantitation range
	* - Non-accredited parameter	H - Holding time exceeded

Sample Receipt Checklist

Client Name **WESTON VERNON HILLS**

Work Order Number **10100361**

Date and Time Received: **10/13/2010 2:30:00 PM**

Received by: **CDF**

Checklist completed by:

Signature

Date

10/13/10

Reviewed by:

Initials

Date

CG 10/14/10

Matrix:

Carrier name: **STAT Analysis**

Shipping container/cooler in good condition?

Yes ☒

No ☐

Not Present ☐

Custody seals intact on shipping container/cooler?

Yes ☐

No ☐

Not Present ☒

Custody seals intact on sample bottles?

Yes ☐

No ☐

Not Present ☒

Chain of custody present?

Yes ☒

No ☐

Chain of custody signed when relinquished and received?

Yes ☒

No ☐

Chain of custody agrees with sample labels/containers?

Yes ☒

No ☐

Samples in proper container/bottle?

Yes ☒

No ☐

Sample containers intact?

Yes ☒

No ☐

Sufficient sample volume for indicated test?

Yes ☒

No ☐

All samples received within holding time?

Yes ☒

No ☐

Container or Temp Blank temperature in compliance?

Yes ☒

No ☐

Temperature Ambient °C

Water - VOA vials have zero headspace?

No VOA vials submitted ☐

Yes ☐

No ☐

Water - Samples pH checked?

Yes ☐

No ☐

Checked by:

Water - Samples properly preserved?

Yes ☐

No ☐

pH Adjusted?

Any No response must be detailed in the comments section below.

Comments:

Client / Person
contacted:

Date contacted:

Contacted by:

Response:

ATTACHMENT G
PRP AIR SAMPLING RESULTS
